GigaWaM demonstrator: A low cost, flexible and scalable WDM-PON access network

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workInnova

GigaWaM demonstrator:
A low cost, flexible and scalable WDM-PON access network

In 2008

A number of **companies**

SEVENTH FRAMEWORK PROGRAMME

Gigabit Access Passive Optical Network using **W**avelength Division **M**ultiplexing

Finisar

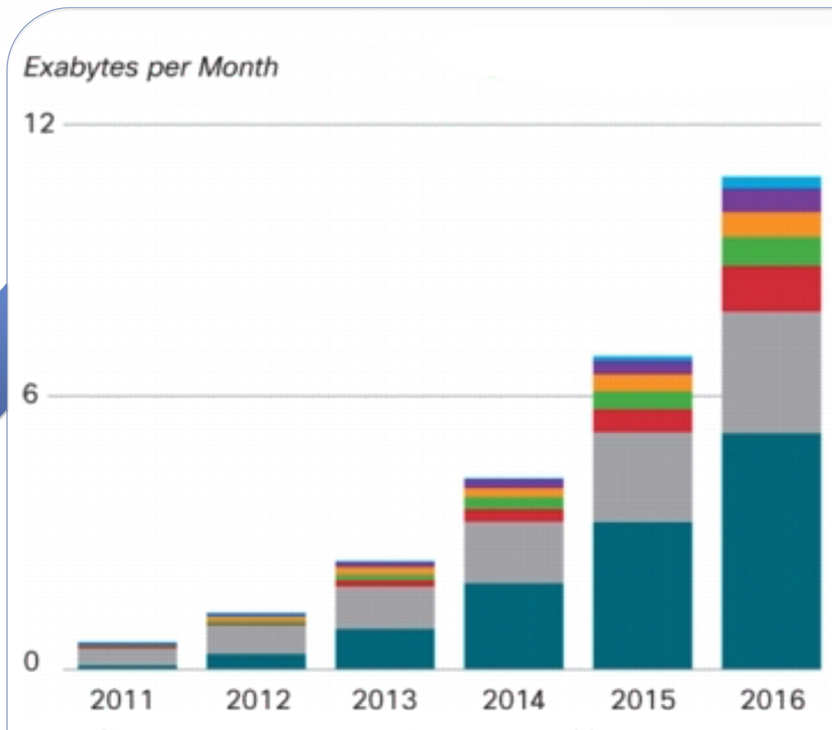
ERICSSON

DTU

AIFOTEC fiberoptics

VERTILAS

Realized an **exa**-problem



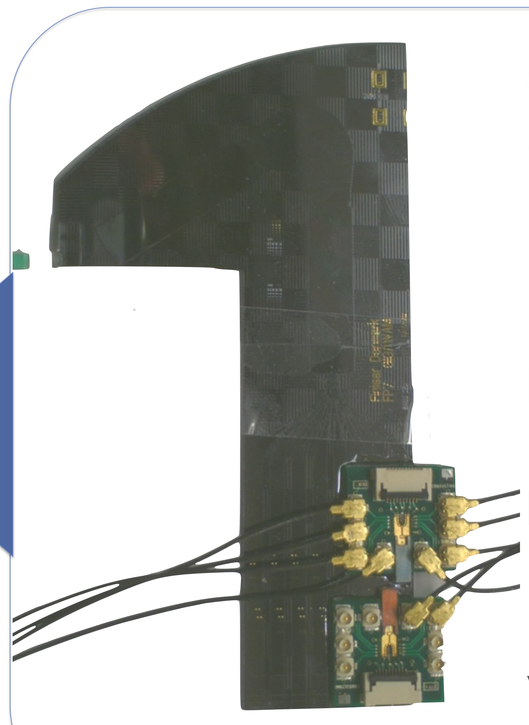
Global Mobile Data Traffic Forecast

And commit to **ach**ieve

1.25 Gbps

and

For the end-user



64 Channels AWG 50 GHz spaced

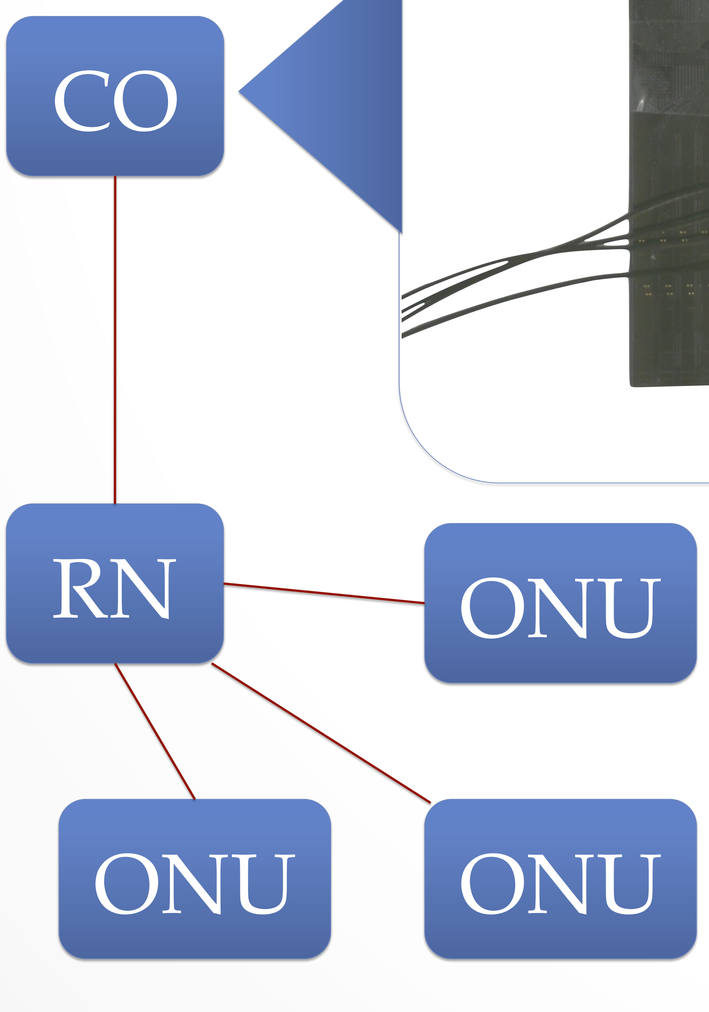
Bidirectional!

PD array integration

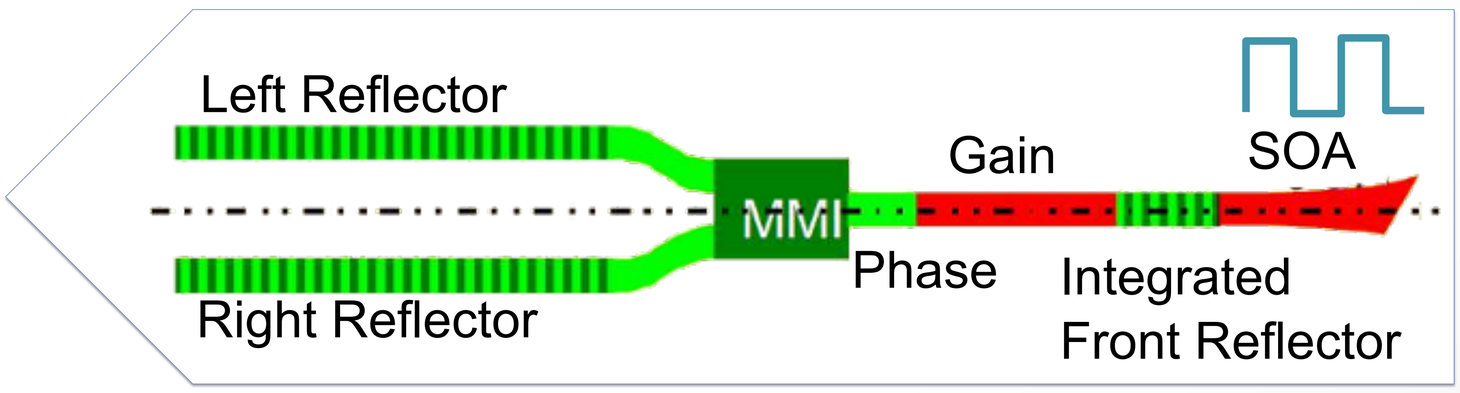
VCSEL array integration

HOW?

1. Using WDM-PON for access
2. Integrating all optical components
3. Hybridizing electronics with optics.



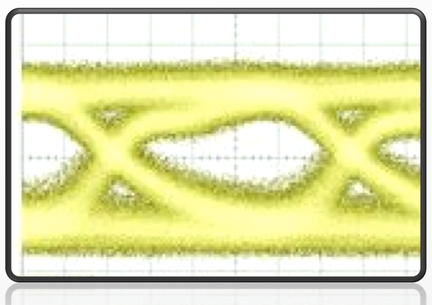
Tunable laser at ONU (MGYSOA)



Challenge	Solution
How to overcome wavelength drifts due to temperature oscillations? Optical wavelength locking is too expensive!	Real time centralized algorithms for wavelength locking both at ONU and CO!

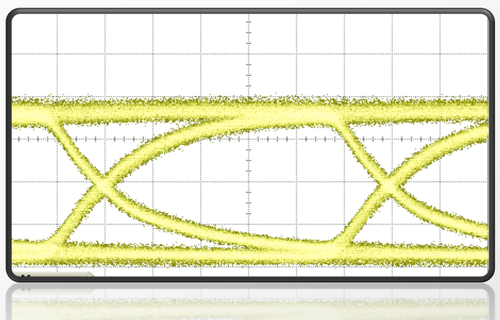
Results

Downstream



4 Gbps, 5 dB ext ratio

Upstream



2.5 Gbps, 4 dB ext ratio